



23641

PATENT TRADEMARK OFFICE

Express Mail No. EL 638 690 350 US
Attorney Docket No. 19763/82069

WHAT IS CLAIMED

1. A craze resistant wire coating composition for magnet wires which comprises:

(a) a compound selected from the group consisting of diacid compounds, trimellitic anhydrides, benzophenonetetracarboxylic anhydrides and mixtures thereof;

(b) a diisocyanate compound;

(c) a dihydroxyl compound;

(d) a trihydroxyl compound;

(e) a fluoropolymer; and

(f) a mineral filler.

2. A craze resistant wire coating composition for magnet wires according to Claim 1, wherein component (a) is a diacid compound selected from the group consisting of p-phthalic acid, m-phthalic acid and o-phthalic acid, 4,4'-oxy-bisbenzoic acid, dicarboxyl terminated poly(acrylonitrile-co-butadiene), adipic acid and mixtures thereof.

3. A craze resistant wire coating composition for magnet wires according to Claim 2, wherein the diacid compound is used together with trimellitic anhydride.

4. A craze resistant wire coating composition for magnet wires according to Claim 1, wherein the diisocyanate compound is selected from the group consisting of 4,4'-diphenylmethane diisocyanate, aliphatic diisocyanate and mixtures thereof.



23641

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5. A craze resistant wire coating composition for magnet wires according to Claim 1, wherein the dihydroxyl compound comprises diphenylsilanediol.

6. A craze resistant wire coating composition for magnet wires according to Claim 1, wherein the trihydroxyl compound is selected from the group consisting of tris(2-hydroxyethyl)cyanurate, cyanuric acid, melamine derivatives and mixtures thereof.

7. A craze resistant wire coating composition for magnet wires according to Claim 1, wherein the fluoropolymer comprises polytetrafluoroethylene.

8. A craze resistant wire coating composition for magnet wires according to Claim 7, wherein the polytetrafluoroethylene has a melting point of approximately 324°C.

9. A craze resistant wire coating composition for magnet wires according to Claim 1, wherein the mineral filler is selected from the group consisting of Molybdenum dioxide, titanium dioxide, fumed silica dioxide, and mixtures thereof.

10. A magnet wire which comprises:
a conductive element; and
a layer of a craze resistant wire coating composition on the conductive element that comprises:

(a) a compound selected from the group consisting of diacid compounds, trimellitic anhydrides, benzophenonetetracarboxylic anhydrides and mixtures thereof;

(b) a diisocyanate compound;



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- (c) a dihydroxyl compound;
- (d) a trihydroxyl compound;
- (e) a fluoropolymer; and
- (f) a mineral filler.

11. A magnet wire according to Claim 10, wherein component (a) is a diacid compound selected from the group consisting of p-phthalic acid, m-phthalic acid and o-phthalic acid, 4,4'-oxy-bisbenzoic acid, dicarboxyl terminated poly(acrylonitrile-co-butadiene), adipic acid and mixtures thereof.

12. A magnet wire according to Claim 11, wherein the diacid compound is used together with trimellitic anhydride.

13. A magnet wire according to Claim 10, wherein the diisocyanate compound is selected from the group consisting of 4,4'-diphenylmethane diisocyanate, aliphatic diisocyanate and mixtures thereof.

14. A magnet wire according to Claim 10, wherein the dihydroxyl compound comprises diphenylsilanediol.

15. A magnet wire according to Claim 10, wherein the trihydroxyl compound is selected from the group consisting of tris(2-hydroxyethyl)cyanurate, cyanuric acid, melamine derivatives and mixtures thereof.



23641

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16. A magnet wire according to Claim 10, wherein the fluoropolymer comprises polytetrafluoroethylene.

17. A magnet wire according to Claim 10, wherein the mineral filler is selected from the group consisting of molybdenum dioxide, titanium dioxide, fumed silica dioxide, and mixtures thereof.

18. A magnet wire according to Claim 10, further including a base layer positioned between the conductive element and the layer of a craze resistant wire coating composition.

19. A magnet wire according to Claim 18, wherein the base layer comprises a polyamideimide.

20. A magnet wire according to Claim 18, wherein the base layer comprises a polyester.